Samuel Sewall.

MDCLXXXI.

AN ALMANACK OF Cœlestial Motions for the Year of the *Christian Epocha*, 1681.

Being in our Account second after *Leap-year*: And from the Creation, 5630.

The Vulgar Notes.

Golden Numb.	10	Epact	20.
Cycle of the Sun.	10	Rom. Indict.	4.
Dominic. Let.	B.	Num. Direct.	13.

Calculated for the Meridian of Boston *in* New-England, *where the* Artick Pole *is elevated* 42 Degrees & 30 Minutes.

By *John Foster*, Astrophil.

Eph. 5. 16 *Redeem the time, because the dayes are evil.*

BOSTON; Printed by *J. F.* 1681.

ECLIPSES in 1681.

IN the Revolution of this Year will happen five Eclipſes of the great Luminaryes, three whereof may be ſeen in *New-England*, if the weather permit.

The firſt viſible is of the Moon, *Auguſt* 18.
Beginning 56 *min.* paſt 8 night.
Continuing 3 *h.* 24. *min.*
Ending 20 *min.* paſt 12. night.
Digits Eclipſed 11 *fere.*

The ſecond is of the Sun, *Jan.* 28.
Beginning 2 *min.* paſt 10 beforenoon.
Continuing 2 *h.* 6. *min.*
Ending 8 *min.* paſt 12 at Noon.
Digits eclipſed 2. 17.

The third viſible is of the Moon, *Febr uary* 11.
Beginning 29 *min.* paſt 4 afternoon.
Beginning of total darkneſs 28. *m.* paſt 5.
End of total darkneſs 8 *min.* paſt 7.
End of the Eclipſe 7 *min.* paſt 8. night.
Digits eclipſed 20. 15.

The other two Eclipſes are of the Sun on the 9*th.* of *March* and 1*ſt.* of *September*, neither of them viſible to us in *N-E.* and therefore needleſs here to be minded.

The

Directions for the Uſe of the following

EPHEMERIS.

IN the Pages next following you have (after the Aſpects of the Sun and Moon) each Moneth preſenting it ſelf in ſeven Columns:

In the firſt Column you have the Day of the Moneth.

The ſecond contains the day of the Week anſwerable to the day of the Moneth.

In the third you may find ſome of the principal Aſpects of the Planets, their places, Courts, Artilleryes, with ſome memorable Occurrences that have lately hapned in *New-England*.

The fourth Column ſhews the Suns place in degrees and minutes.

The fifth declares what degree of the Ecliptick which the Moon poſſeſſeth.

The ſixth Co'umn holds the time of the Suns Riſing and ſetting in three Rows of figures, the firſt ſignifying the hour of the Suns riſing, the third ſhews the hour of its ſetting, the middle Row is the number of minutes that the Sun riſes after the hour foregoing, and the minutes that it ſets before the hour following. *e.g. March* 21. the Sun riſeth 43 *min.* after five, & ſets 43 *min.* before ſeven.

The ſeventh Column gives the time of the night when the Pointers (two ſtars by ſome called the *Guards of the great Bear*, and ſo termed in our laſt years Almanack) come to be directly over or under the Pole.

March hath 31 Dayes.

Last quar. 2 day 8 min. past 4 morning.
New moon 9 day 6 min. past 8 night,
First quar. 16 day 10 min. past 2 afternoon.
Full moon 23 day 47 min. past 8 night.
Last quar. 31 day 38 min. past 10 night.

M	W	Plan. aspects &c.	☉ pl.		☽ pl.		☉ r. & l.		P. N
	1	3	C. *Assiz.* Boston, &	21	♓	*Sagit* 14	6 12	6	11 14
	2	4	♄ 16 gr. ♋ (C. *Plim*	22	54	26	6 11	6	11 11
	3	5	County C. *Herford.*	23	54	*Capr.* 8	6 10	6	11 7
	4	6	(☌☉☿	24	54	20	6 8	6	11 03
	5	7	♆ 9 ♊	25	53	*Aqu.* 2	6 7	6	10 59
	6	1	□☿☽ △☌♀	26	54	15	6 5	6	10 56
	7	2		27	53	28	6 4	6	10 52
	8	3	Court *Fairfield.*	28	52	*Pisces* 11	6 2	6	10 48
	9	4	☌ 9 gr. ♍	29	52	25	6 1	6	10 45
	10	5		00	♈	*Aries* 9	6 00	6	10 41
	11	6	*Venus* 16 ♉	1	50	23	5 59	7	10 37
	12	7	☿ 11 ♈	2	50	*Taur.* 8	5 57	7	10 33
	13	1	☌☿☽	3	49	22	5 56	7	10 30
	14	2	☌♆☽	4	48	*Gemi* 6	5 55	7	10 26
	15	3	Lun. Perig.	5	47	20	5 53	7	10 23
	16	4	*Genl Court.*	6	47	*Canc.* 5	5 52	7	10 20
	17	5	☌♄☽	7	46	19	5 50	7	10 16
	18	6	1676. *In this moneth*	8	45	*Leo:* 2	5 48	7	10 12
	19	7	Groton, North-	9	44	16	5 46	7	10 9
	20	1	hampton (☌☌☽)	10	43	29	5 44	7	10 5
	21	2	warwick, Malbo-	11	42	*Virg.* 13	5 43	7	10 1
×	22	3	rough *and* Reho-	12	41	26	5 41	7	9 58
	23	4	both *assaulted by*	13	40	*Libra* 9	5 40	7	9 54
	24	5	*Indians.*	14	39	22	5 39	7	9 51
	25	6		15	37	*Scor.* 4	5 38	7	9 48
	26	7	□♄☉	16	36	16	5 37	7	9 44
	27	1		17	35	29	5 36	7	9 40
	28	2	☌ Jup. ☽ *Parliam.*	18	34	*Sagit* 10	5 34	7	9 37
	29	3	C. *Ipsw.* & *North-*	19	32	22	5 33	7	9 33
	30	4	*(hampton.*	20	31	*Capr.* 4	5 32	7	9 29
	31	5		21	30	16	5 30	7	9 25

April hath 30 daves.

New moon 8 day 26 min past 6 morn.
First quar. 14 day 47 past 10 night.
Full moon 22 day 52 min. past 11 noon.
Last quar. 30 day 57 min. past 2 afternoon.

M	W	Plan. Aspects &c.	☉ pl.	☽ pl.	☉ r. & s.			P. N
1	6	Saturn 16 gr. ♑	22	♈ Capr.	28	5	28	7 9 21
2	7	Jupiter 13 ♊	23	27 Aqu.	10	5	27	7 9 17
3	1	Mars 5 ♍ ☌ stat-	24	26	23	5	26	7 9 13
4	2	☌ ☌ ☽	25	24 Pisces	06	5	24	7 9 09
5	3	Court Cambridge.	26	23	19	5	23	7 9 06
6	4		27	21 Aries	03	5	22	7 9 02
7	5	☌♄♀	28	19	17	5	20	7 8 58
8	6	Venus 19 gr. ♊	29	18 Taur	02	5	18	7 8 55
9	7	Mercury 12 ☌ ☌♀	0	♉	16	5	17	7 8 51
10	1	☌♄♀	1	14 Gem.	01	5	16	7 8 47
11	2		2	13	16	5	15	7 8 43
12	3	C. Salisbury	3	11 Canc.	01	5	14	7 8 39
13	4	Moon Perige	4	9	15	5	13	7 8 34
14	5	(☌h	5	7 Leo	00	5	11	7 8 31
15	6	△☌☉	6	6	13	5	10	7 8 28
16	7		7	4	27	5	09	7 8 24
17	1	☌☌☽ Conj ☿	8	2 Virgo	09	5	07	7 8 21
18	2		9	0	23	5	06	7 8 17
19	3		9	58 Libra	05	5	04	7 8 14
20	4	□☌ ✶♃ Winthr.	10	56	18	5	03	7 8 10
21	5	1676 18. Sudbury as-	11	54 Scor.	00	5	02	7 8 06
22	6	saulted.	12	52	13	5	01	7 8 02
23	7		13	50	25	5	00	7 7 58
24	1	Venus 0 gr. ♑	14	48 Sagit.	07	4	59	8 7 54
25	2	Moon Apog	15	45	19	4	57	8 7 51
26	3	C. Court Boston.	16	43 Capr.	00	4	56	8 7 47
27	4	✶♀♀ & of h☉	17	41	12	4	55	8 7 43
28	5		18	39	24	4	54	8 7 40
29	6		19	37 Aqu.	06	4	53	8 7 36
30	7	△♃ Lun.	20	34	19	4	52	8 7 32

May hath 31 Dayes.

New moon 7 day 34 min. past 2 afternoon.
First quar. 14 day 10 min. past 5 morn.
Full moon 22 day 21 min. past 3 morn.
Last quar. 30 day 4 min. past 4 morning.

M	W	Plan. aspects &c.	☉ pl.		☽ pl.		☉ r. & s.		P. N
1	1		21	♉	*Pisces*	1	4 51	8 7	28
2	2	☌♂☽ Lun ☍♆	22	30		14	4 50	8 7	24
3	3	♄ 19 gr ♋ ✶☉☽	23	27		27	4 49	8 7	20
4	4	♆ 19 ♊	24	25	*Aries*	11	4 48	8 7	16
5	5	♂ 10 ♍ ☌♂	25	23		25	4 47	8 7	12
6	6	☿ 8 ♋	26	20	*Taur.*	10	4 46	8 7	08
7	7	*Mercury* 2 ♉ *and*	27	18		25	4 45	8 7	04
8	1	*visible for several*	28	15	*Gemi*	10	4 44	8 7	00
9	2	*mornings about this*	29	13		25	4 43	8 6	56
10	3	*time.*	00	♊	*Canc.*	10	4 42	8 6	52
11	4	C. *Election* Boston.	1	8		25	4 41	8 6	48
12	5	C. Elect. *Hartford.*	2	5	*Leo.*	9	4 40	8 6	44
13	6		3	2		23	4 39	8 6	40
14	7	☌♂☽	4	00	*Vir.*	7	4 39	8 6	36
15	1	1676. *Bridgwater,*	4	57		20	4 38	8 6	32
16	2	*Plimouth &*	5	55	*Libra*	3	4 37	8 6	28
17	3	*Hatfield in this*	6	52		15	4 36	8 6	24
18	4	*month assaulted.*	7	49		27	4 35	8 6	20
19	5	△♂☿ ☌☿☽	8	47	*Scor.*	10	4 34	8 6	16
20	6		9	44		22	4 33	8 6	12
21	7	*Mer.* 17 ♉	10	41	*Sagit*	4	4 33	8 6	08
22	1		11	39		16	4 32	8 6	04
23	2	✶♄☿	12	36		27	4 31	8 6	00
24	3	☽ Apoge.	13	33	*Capr.*	9	4 31	8 5	56
25	4	☌♄☽ &☿☽	14	30		21	4 30	8 5	52
26	5		15	27	*Aqu.*	3	4 30	8 5	48
27	6		16	25		15	4 29	8 5	44
28	7	*Venus stationary.*	17	22		27	4 29	8 5	40
29	1		18	19	*Pisces*	10	4 28	8 5	36
30	2	□♂☉	19	16		23	4 28	8 5	31
31	3	C. Assist. Hartford.	20	13	*Aries*	5	4 28	8 5	27

W^m. East.

June hath 30 dayes.

New moon 5 day 30 min past 8 night.
First quar. 12 day 17 min. past 3 afternoon
Full moon 20 day 8 min. past 6 afternoon.
Last quar. 28 day 47 min. past 1 afternoon.

M	W	*Plan. Aspects &c.*	☉ pl.	☽ pl.	☉ r. & s.	P. N
1	4	*Saturn* 22 gr. ♋	21 ♊	*Aries* 20	4 28 8	5 23
2	5	*Jupiter* 26 ♊	22 8	*Taur.* 4	4 28 8	5 20
3	6	*Mars* 21 ♍	23 5	18	4 27 8	5 15
4	7	♀ 17 ♊ ☌☿☽	24 2	*Gem.* 3	4 27 8	5 10
5	1		24 59	18	4 27 8	5 06
6	2	Artil. Elect. *Boston.*	25 56	*Canc.* 3	4 27 8	5 02
Rex	3	C. Elect. *Plimouth.* &	26 53	18	4 26 8	4 58
8	4	C. *N-hav.* (C. *N Lond*	27 50	*Leo* 3	4 26 8	4 54
9	5	☌☉♃	28 47	18	4 26 8	4 50
10	6		29 44	*Virgo* 2	4 26 8	4 46
* 11	7	☽☊	0 ♋	16	4 26 8	4 42
12	1	□☌☿	1 39	29	4 26 8	4 38
13	2	☌♃♀	2 36	*Libra* 12	4 26 8	4 35
14	3	Court *Charlstown.*	3 33	24	4 26 8	4 30
15	4		4 30	*Scor.* 7	4 26 8	4 25
16	5	1676. *Hadly* assault.	5 27	19	4 26 8	4 20
17	6	Terra Aphelion.	6 24	*Sagit.* 1	4 27 8	4 17
18	7	☌☉♀☿	7 21	13	4 27 8	4 13
19	1	Lun Apoge.	8 18	24	4 27 8	4 09
20	2	☌♀☽ & of ☿☽	9 15	*Capr.* 7	4 27 8	4 04
Rex.	21	3 1675. Indian War	10 12	18	4 28 8	4 00
22	4	began in *Plimouth*	11 9	*Aqu.* 00	4 28 8	3 56
23	5	Colony.	12 6	12	4 28 8	3 52
24	6		13 3	24	4 29 8	3 48
25	7		14 0	*Pisces* 7	4 29 8	3 44
26	1	☽☍♆	14 57	20	4 29 8	3 40
27	2	☌☌☽ ☌♄♀	15 54	*Aries* 2	4 30 8	3 36
Winslow	28	3 Court *Salem.*	16 52	15	4 30 8	3 32
29	4		17 49	29	4 31 8	3 28
30	5		18 46	*Taur.* 13	4 32 8	3 23

July hath 31 dayes.

New moon 5 day 4 min. past 5 morning.
First quar. 12 day 26 min. past 1 morn.
Full moon 20 day 43 min. past 1 morn.
Last quar. 27 day 48 min. past 9 night.

M.w.	Plan. Aspect, &c.	☉ pl.	☽ pl.	☉ r. & s.	P.N.
1 6		19 ♋ *Taur.*	27	4 32 8	3 19
2 7		20 40 *Gemi*	12	4 32 8	3 15
3 1	☌♃☽ ☌☿☽	21 37	28	4 33 8	3 11
4 2	Artil. Elect. *Salem*	22 34 *Canc.*	12	4 34 8	3 7
5 3	Court *Plimouth.* &	23 31	27	4 35 8	3 3
6 4	(☌♄☽	24 28 *Leo.*	12	4 36 8	2 59
7 5		25 26	27	4 36 8	2 55
8 6	☌♄☉	26 23 *Virg.*	11	4 37 8	2 51
9 7	Jup. 4 gr. ♋	27 20	25	4 38 8	2 47
10 1		28 17 *Libra*	8	4 39 8	2 43
11 2	1676. *Taunton* as-	29 14	21	4 40 8	2 39
12 3	Mars 12 ♎ (saulted	0 ♏ *Scorp*	3	4 41 8	2 35
13 4	Venus 2 9 ♋	1 9	15	4 42 8	2 31
14 5	Mercury 25 ♏	2 6	27	4 43 8	2 27
15 6	☊ 14 ♍	3 3 *Sagit*	9	4 44 8	2 23
16 7		4 1	21	4 45 8	2 19
17 1	☌♃☽ ☌☿☽	4 58 *Capr.*	3	4 46 8	2 15
18 2	Lun apoge	5 55	15	4 47 8	2 11
19 3	☌♄☽	6 53	27	4 48 8	2 7
20 4		7 50 *Aqu.*	9	4 46 8	2 4
21 5		8 47	21	4 50 8	1 59
22 6	☌☿☽ ☽☍♆	9 45 *Pisc.*	4	4 51 8	1 55
23 7		10 42	16	4 52 8	1 51
24 1	□♄ *moritur* ☐☿☽	11 40	29	4 53 8	1 47
25 2		12 37 *Aries*	12	4 54 8	1 44
26 3	County C. *Boston.*	13 34	26	4 55 8	1 40
27 4		14 32 *Taur.*	9	4 56 8	1 39
28 5	*Venus* 4 gr. ♋ *Arriv*	15 29	23	4 57 8	1 32
29 6	*Merc.* 13 ♍ vis.	16 27 *Gemi*	7	4 58 8	1 28
30 7		17 24	21	4 59 8	1 24
31 1	☌♃☽ & of☿☽	18 22 *Canc.*	6	5 01 7	1 21

Auguſt hath 31 dayes.

New moon 3 day 20 min. paſt noon.
Firſt quar. 10 day 26 min. paſt 9 night.
Full moon 18 day 43 min. paſt 9 night.
Laſt quar. 26 day 30 min. paſt 3 morn.

M.	w.	Plan. Aſpect,&c.	☉ pl.	☽ pl.	☉ r.&ſ.	P.N.
1	2		19 ♌	*Canc.* 21	5 2 7	1 17
Rox. 2	3	♄ ☍ r. ♌	20 17	*Leo.* 05	5 3 7	1 13
3	4	♃ ☍ ♋	21 15	20	5 5 7	1 09
4	5	Mars 26 ♍	22 12	*Virg.* 4	5 6 7	1 05
5	6	Venus 9 ♋ ☌ ☽	23 10	19	5 7 7	1 02
6	7		24 08	*Libra* 3	5 8 7	12 58
7	1	☌ ♃ ♀	25 06	16	5 9 7	12 54
8	2	1679 *Boſton Conflag.*	26 03	28	5 11 7	12 51
9	3	Commencement.	27 01	*Scorp* 11	5 12 7	12 47
10	4		27 59	23	5 14 7	12 44
11	5		28 57	*Sagit* 6	5 15 7	12 40
12	6	1676. *Philip* of	29 55	17	5 17 7	12 36
13	7	*Mount-hope* ſlain.	00 ♍	29	5 18 7	12 32
14	1	☌ ♃ ☌ ♀ □ ♄ ☌	01 51	*Capr.* 11	5 19 7	12 28
15	2		02 48	23	5 20 7	12 25
Rox. 16	3	Lun apoge	03 46	*Aqu.* 05	5 22 7	12 21
17	4		04 44	17	5 24 7	12 18
18	5		05 43	*Piſc.* 00	5 25 7	12 14
19	6	☌ ☽ ♀	06 41	13	5 27 7	12 10
20	7		07 39	26	5 28 7	12 07
21	1	1675. 2. *Quabaog*	08 37	*Aries* 9	5 29 7	12 03
22	2	deſtroyed by the Ind	09 35	23	5 30 7	12 00
23	3	△ ☉ ☽ ☌ ☽	10 33	*Taur.* 7	5 31 7	11 56
24	4	*Venus* 25 ♋	11 31	20	5 32 7	11 52
25	5	*Merc.* 9 ♍	12 30	*Gemi* 4	5 34 7	11 49
26	6	✶ ☉ ♃	13 28	17	5 35 7	11 45
27	7		14 26	*Canc.* 01	5 37 7	11 42
28	1	☌ ♃ ☽	15 24	16	5 39 7	11 38
29	2	☌ ♄ ☌ ♀ ☽	16 25	*Leo.* 00	5 41 7	11 34
Rox. 30	3		17 22	15	5 42 7	11 30
31	4	Lun Perige	18 20	29	5 43 7	11 26

September hath 30 dayes.

New moon 1 day 6 min. past 10 night.
First quar. 9 day 32 min past 3 afternoon.
Full moon 17 day 28 min. past 11 noon.
Last quar. 24 day 26 min past 8 morning.

M.	W.	Planets aspects, &c.	☉ pl.	☽ pl.	☉ r. & ſ.	P. N.
	1	5	C. Harford. ☌ ♄♀	19 ♍	*Virg.* 13 ſ 44 7	11 22
	2	6	(& ☉ ecl.	20 17	28 5 45 7	11 18
	3	7	△♃☌	21 16	*Libra* 11 5 47 7	11 14
	4	1	1675. 1. *Deerfield*	22 14	24 5 49 7	11 10
Exc.	5	2	laid waſte.	23 13	*Scor.* 7 5 51 7	11 06
	6	3	C. Aſſiſt. *Boſton.* &	24 12	19 5 53 7	11 03
	7	4	(☌☌)	25 10	*Sagit* 2 5 55 7	10 59
	8	5	△♃	26 9	13 5 56 7	10 55
tutor	9	6	*John Forter.*	27 8	26 5 58 7	10 51 Obſ
	10	7	Luna apoge.	28 7	*Capr.* 7 5 59 7	10 48
W.	11	1	☌♄)	29 6	19 5 59 7	10 45
	12	2	☌♀ Lun.	00 ♑	*Aqua* 1 6 00 6	10 41
x. B.	13	3	Saturn 4 gr. ♑	01 3	13 6 02 6	10 37
1	14	4	Jup. 17 ♋	02 2	25 6 03 6	10 33
	15	5	Mars 24 ♍	03 1	*Piſcet* 8 6 05 6	10 30
	16	6	Venus 20 ♌	04 0	22 6 07 6	10 27
	17	7	Mercury 18 ♍	04 59	*Aries* 5 6 09 6	10 24
	18	1	☊ 11 ♍	05 58	18 6 10 6	10 20
	19	2		06 58	*Taur.* 2 6 12 6	10 17
ahing	20	3	Court Newlondon	07 57	16 6 13 6	10 14
	21	4	☌☌	08 56	*Gemi.* 00 6 15 6	10 10
xecu-	22	5	♄△☉☽ on —	09 55	14 6 16 6	10 07
eph	23	6	*Rain Thor Day*	10 55	*Canc.* 27 6 17 6	10 04
	24	7	☌ Joy. Lun.	11 54	13 6 18 6	10 00
	25	1	Moon *Perige*	12 54	27 6 19 6	9 57
	26	2		13 53	*Leo.* 11 6 20 6	9 54
Rox	27	3	C. Ipſw. & Springf.	14 53	25 6 21 6	9 50
x	28	4	Lun ☊ □☌♀	15 52	*Virgo* 8 6 23 6	9 46
ivene	29	5	*pleaſ. Wether.*	16 52	22 6 25 6	9 42
	30	6	☌♀)	17 51	*Libra* 6 6 26 6	9 38

October hath 31 dayes.

New moon 1 day 31 min. past 10 beforenoon.
First quar. 9 day 43 min. past 10 beforenoon.
Full moon 16 day 27 min. past 11 night.
Last quarter 23 day 23 min. past 3 afternoon.
New moon 31 day 6 min. past 2 morn.

M.	V.	Planets asp. &c.	☉ pl.	☽ pl.		☉ r. & s.		P.	N
1	7	☌☿☽ □♅☉	18	♎	*Libra* 19	6	27	6	9 34
2	1	△♄♂	19	50	2	6	29	6	9 30
3	2		20	50	*Scorp* 15	6	30	6	9 27
4	3	Court Cambridge.	21	49	27	6	31	6	9 23
5	4	☌♂☽ ☌☿☉	22	49	10	6	32	6	9 20
6	5		23	49	*Sagit* 22	6	34	6	9 16
7	6		24	49	3	6	35	6	9 12
8	7	Luna apoge.	25	48	*Capr.* 15	6	37	6	9 8
9	1	☌♃☽	26	48	27	6	39	6	9 4
10	2		27	48	*Aqu.* 9	6	40	6	8 1
11	3	C. Assist. *Hartford.*	28	48	21	6	41	6	8 57
12	4	☽☌♃	29	48	4	6	42	9	8 53
13	5	☌☿☽ ✶♃☿	00	♏	*Pisces* 17	6	43	6	8 50
14	6		1	48	29	6	44	6	8 46
15	7	Saturn 6 gr. ♑	2	48	*Aries* 13	6	45	6	8 42
16	1	Jupiter 20 ♋	3	48	27	6	37	6	8 38
17	2	Mars 17 ♐	4	48	13	6	48	6	8 34
18	3	Venus 26 ♏	5	49	*Taur.* 25	6	49	6	8 30
19	4	Mercury 29 ♒	6	49	10	6	50	6	8 26
20	5	☌☽☌♂	7	49	*Gemi* 25	6	51	6	8 22
21	6	Rain	8	50	9	6	53	6	8 18
22	7	☌♃☽ Moon *Perige*	9	50	*Canc.* 23	6	54	6	8 14
23	1	☌♄☽	10	50	8	6	56	6	8 10
24	2		11	51	*Leo.* 21	6	57	6	8 6
25	3	Court *Boston* & *Pli-*	12	51	5	6	59	6	8 3
26	4	*(mouth.*	13	52	*Virgo* 19	7	00	5	8 00
27	5		14	52	2	7	1	5	7 56
28	6	Venus 8 ♎	15	52	*Libra* 15	7	2	5	7 52
29	7	Mercury 1 ♐	16	53	28	7	3	5	7 48
30	1	□♄☽	17	53	*Scorp* 11	7	5	5	7 44
31	2		18	54	23	7	7	5	7 39

November hath 30 dayes.

First quar. 8 day 2 min past 6 morn.
Full moon 15 day 32 min. past noon.
Last quar. 22 day 16 min past 1 morning.
New moon 29 day 19 min. past 8 night.

M.	VV.	Planets aspects, &c.	☉ pl.	☽ pl.	☉ r. & s.	P.N.
1	3	Court *Fairfield*	19 m	*Sagit* 6	7 8	5 7 35
2	4		20 55	18	7 9	5 7 31
3	5	☌☌☽ the ☉ in ♌	21 56	*Capr.* 0	7 10	5 7 27
4	6	to the *Pleiades* is	22 57	12	7 11	5 7 22
5	7	thought to make	23 57	24	7 12	5 7 18
6	1	these dayes tem-	24 58	*Aqua* 5	7 13	5 7 14
7	2	pestuous.	25 59	17	7 14	5 7 10
8	3	☽.	26 59	29	7 15	5 7 5
9	4	Court *Newhaven.*	28 00	*Pisces* 11	7 16	5 7 1
10	5	Saturn 7 gr. ♑	29 1	24	7 17	5 6 57
11	6	Jup. 20 ♋	00 ♈	*Aries* 7	7 18	5 6 52
12	7	Mars 7 ♍ ☌☿☽	01 3	20	7 19	5 6 48
13	1	Venus 27 ♎	02 4	*Taur.* 5	7 20	5 6 44
14	2	Mercury 23 ♐	03 5	19	7 20	5 6 40
15	3	Catech:	04 6	*Gemi.* 3	7 21	5 6 35
16	4		05 7	19	7 22	5 6 31
17	5	☌☌☽ & of ☿☽	06 8	*Canc.* 4	7 23	5 6 27
18	6	☌♃☽ △♄☉	07 9	19	7 23	5 6 23
19	7		08 10	*Leo.* 4	7 24	5 6 19
20	1		09 11	18	7 25	5 6 14
21	2	△☿☽ □♄♀	10 12	*Virgo* 2	7 25	5 6 10
22	3		11 13	16	7 26	5 6 6
23	4		12 14	26	7 27	5 6 2
24	5	*Venus* 11 ♍	13 15	*Libra* 12	7 27	5 5 58
25	6	☿ 2 ♈ & stationary	14 16	28	7 28	5 5 53
26	7		15 17	*Scor.* 8	7 29	5 5 49
27	1	1676. a great Fire	16 18	20	7 29	5 5 45
28	2	in *Boston.* ☌♃♂	17 20	*Sagit* 27	7 30	5 5 40
29	3	Court *Salem.*	18 21	14	7 30	5 5 36
30	4		19 22	26	7 31	5 5 31

December hath 31 dayes.

First quar. 7 day 59 min. past 11 night.
Full moon 14 day 15 min. past 9 night.
Last quarter 21 day 31 min. past 3 afternoon.
New moon 29 day 49 min. past 3 afternoon.

M.VV.		Planets asp. &c.	☉ pl.	☽ pl.	☉ r. & s.	V.	P.	N
1	6	Lun apoge. △♄♀	20 ♐	*Capr.* 8	7 31	5	5	27
2	6	☌♄ ☍☌	21 26	20	7 32	5	5	22
3	7	☌♄☽	22 27	*Aqu.* 2	7 32	5	5	18
4	1		23 28	13	7 33	5	5	14
5	2		24 30	25	7 33	5	5	08
6	3	♄ 6 gr ♌ *B.*	25 31	*Pisces* 8	7 33	5	5	03
7	4	Jupiter 18 ♋	26 32	20	7 34	5	4	59
8	5	Mars 27 ♍	27 33	*Aries* 3	7 34	5	4	54
9	6	Venus 29 ♍	28 35	16	7 34	5	4	50
10	7	shorteſt day.	29 36	29	7 34	5	4	46
11	1	Merc. 18 ♐	00 ♑	*Taur.* 13	7 34	5	4	42
12	2	☌☌ 6 ♍ ☌♀☽	1 39	27	7 34	5	4	37
13	3	☌♀☽ *Catech.*	2 40	*Gemi* 12	7 34	5	4	32
14	4	△♄ Venus	3 41	27	7 34	5	4	28
15	5	☍♃☽	4 42	*Canc.* 12	7 34	5	4	23
16	6	☽ perige.	5 43	27	7 34	5	4	19
17	7	☍♄☽	6 45	*Leo.* 13	7 33	5	4	14
18	1	Mercury ſtat.	7 46	27	7 33	5	4	10
19	2		8 47	*Virgo* 12	7 33	5	4	6
20	3	☾. Charlſtown.	9 48	25	7 32	5	4	1
21	4	1675. *Die* 19 *Canonicus Fort taken by the Engliſh.*	10 50	*Libra* 9	7 32	5	3	57
			11 51	22	7 31	5	3	52
22	5		12 52	*Scorp* 5	7 31	5	3	48
23	6		13 54	18	7 30	5	3	43
24	7	Venus 18 gr. ♐	14 55	29	7 29	5	3	39
25	1	Mercury 21 ♐	15 56	*Sagit.* 11	7 29	5	3	34
26	2	☌☉♃ *Plenty* ☍♀☽	16 58	23	7 28	5	3	30
27	3		18 0	*Capr.* 5	7 28	5	3	25
28	4	☌ Jov. Lun.	19 0	18	7 27	5	3	21
29	5	*Nata eſt.*	20 1	20	7 27	5	3	16
30	6	Lun Apoge ☌☍☽	21 2	*Aqu.* 11	7 26	5	3	12
31	7							

& Seaſonable after Long Drought

January hath 31 dayes.

First quar. 6 day 45 min. past 1 afternoon.
Full moon 13 day 35 min. past 7 morn.
Last quar. 20 day 43 min past 6 morning.
New moon 28 day 55 min. past 10 beforenoon.

m.	w.	Planets asp &c.	☉ pl.	☽ pl.	☉ r. & s.		P. N.
1	1	Baptizata	22	♈ E. S.	23	7 25 5	3 07
2	2	☌☿ ☽ Lun ♃.	23	5 Pisc.	5	7 25 5	3 03
3	3	♄ 4 gr. ♑ & retr.	24	6	17	7 24 5	2 59
4	4	♅ 14 ♑ & retr	25	7	29	7 23 5	2 54
5	5	♂ 19 ♒ Snow	26	8 Arie.	12	7 22 5	2 50
6	6		27	9	26	7 21 5	2 46
7	7		28	10 Taur.	8	7 21 5	2 42
8	1	☌ & ☿ 6 ♈	29	11	22	7 20 5	2 38
9	2	△☉☽ ☍♄	00	♊ Gem.	6	7 19 5	2 33
10	3	Catech.	1	14	21	7 18 5	2 29
11	4	♂♅ ☌☿☽	2	15 Canc.	6	7 17 5	2 25
12	5	☌♄☉	3	16	21	7 16 5	2 21
13	6	☌♅☿ & ♅♀	4	17 Leo.	5	7 15 5	2 17
14	7		5	18	21	7 14 5	2 13
15	1	☽☊	6	20 Virg.	5	7 13 5	2 09
16	2		7	21	20	7 12 5	2 05
17	3	△☉☽ ☍♄ W.	8	22 Libra	4	7 11 5	2 01
18	4	□♅ □☿ □☿	9	23	18	7 10 5	1 57
19	5	Venus 22 gr. ♈	10	24 Scorp	1	7 9 5	1 53
20	6	Merc. 25 ♈	11	25	14	7 8 5	1 49
21	7		12	25	26	7 7 5	1 45
22	1	☍☉☽ □♂☽	13	26 Sagit.	7	7 6 5	1 41
23	2		14	27	20	7 5 5	1 36
24	3		15	28 Capr.	2	7 4 5	1 31
25	4	☌♅☽ ☌♄☿	16	29	14	7 3 5	1 27
26	5	The long March.	17	30	26	7 2 5	1 23
27	6	☌♄ ☌☿☽	18	31 Aqu.	8	7 1 5	1 19
28	7	Sun Eclipsed vis.	19	31	20	6 59 6	1 15
29	1	☌♂☽ ☌♄♀	20	32 Pisces	1	6 57 6	1 11
30	2		21	33	14	6 56 6	1 07
31	3	C. Court Boston.	22	33	26	6 54 6	1 03

Ro. 1680 Esse Marem, et Vacas concubuisse rubrem. Dies CCLXXX.

Rox. B.

February hath 28 dayes.

First quar. 5 day 21 min. past 4 morning.
Full moon 11 day 48 min. past 6 night.
Last quar. 19 day 00 min. past 1 morning.
New moon 27 day 11 min. past 4 morn.

m.	w.	Planets asp. &c.	☉ pl.	☽ pl.	☉ r. & s.	P.N.
1	4	Saturn 2 gr. ♌	23 ♒	*Arie.*	9 6 52 6	01 00
2	5	♃ 11 ♋ △♃♂	24 34		22 6 50 6	12 56
3	6	Mars 12 ♓	25 35	*Taur*	05 6 48 6	12 52
4	7	*Venus* 10 ♒	26 36		18 6 48 6	12 48
5	1	Mercury 20 ♍	27 36	*Gem.*	02 6 47 6	12 44
6	2		28 37		16 6 46 6	12 40
7	3	Catech^{s}.	29 37	*Canc.*	00 6 44 6	12 36
8	4	☌♃☽ △☍☽	00 ♓		15 6 42 6	12 32
9	5	☌♄☽ ☽ perige	1 38		29 6 40 6	12 28
10	6	1675 *Lancaster burnt*	2 39	*Leo.*	14 6 39 6	12 25
11	7	A total eclipse of the	3 39		29 6 38 6	12 21
12	1	Moon. *Colour?*	4 39	*Virg.*	14 6 37 6	12 17
13	2		5 40		28 6 36 6	12 13
14	3	*Major* Savage.	6 40	*Libra*	12 6 35 6	12 9
15	4	☌☉☿	7 40		26 6 34 6	12 6
16	5		8 40	*Scorp*	9 6 32 6	12 2
17	6	△♃☿ □☿☽	9 41		23 6 31 6	11 58
18	7	△☉♃	10 41	*Sagit.*	5 6 29 6	11 54
19	1		11 41		17 6 28 6	11 50
20	2	*Funeral M.S.*	12 41		29 6 27 6	11 47
21	3	1675. *Medfield*	13 41	*Capr.*	10 6 26 6	11 43
22	4	assaulted.	14 41		22 6 24 6	11 40
23	5	☽ Apoge.	15 41	*Aqu.*	4 6 22 6	11 36
24	6		16 41		16 6 20 6	11 32
25	7		17 40		28 6 18 6	11 28
26	1	☌☿☽ & ☍ ♂☿	18 40	*Pisces*	10 6 16 6	11 24
27	2	△♄☿ △♄♂	19 40		23 6 14 6	11 21
28	3	☌♂☽ △♃♀	20 40	*Aries*	6 6 13 6	11 18

OF COMETS,
Their Motion, Diſtance & Magnitude.

IT may perhaps be expected that the terrible *Comet* ſeen this laſt winter 1680. to us in *New-England*, and (no doubt) to the whole world, ſhould occaſion ſomething here to be ſaid concerning the nature and conſtitution of thoſe wonderful bodyes: but if it be a true (as well as a common) Saying, *Non eſt in intellectu quod non fuit prius in ſenſu, Nothing comes to the underſtanding but what hath firſt paſſed the ſenſes*, then it will follow that ſuch things as are far removed from our ſenſes, will alſo be remote from our underſtandings: And though it muſt be confeſſed that the Age wherein we live hath made many rare diſcoveryes of ſuch things in the heavens whereof the Ancients were wholly ignorant, as the Ring of ♄, the Satellites of ♃, mountains and valleys in the moon, & thouſands of Stars which they never ſaw &c. ſo much alſo concerning Comets of their motion magnitude and diſtance as may ſerve to ſubvert the old fabrick of their fancies, but yet notwithſtanding theſe diſcoveryes, we are ſtill ignorant what they are, *Quod ſint concedimus, ſed qualia ſint ignoramus*: and whence indeed can we hope that it ſhould be otherwiſe; when perhaps could we approach them, for a perfect and full view of them, (ſeeing they are not within the confines of this earths influence or jurisdiction) we could determine nothing thereby but their magnitude, colour and figure; Such therefore as have eſſayed any phyſical Diſcourſe concerning Comets, wanting a good foundation to build upon have exceedingly varied in their apprehenſions, *Quot homines tot ſententiæ*: Nor would theſe few leaves give me ſcope ſo much as to draw up in any order the many Regiments of opinions which every where appear among Authors concerning Comets, much leſs to give them fair play in their own defence.

We may therefore certainly conclude that as yet no man knows concerning Comets whence they are, what they are, for what they come, or whither they goe.

It will therefore be sufficient for me here a little to concern my self with such things only as come under a mathematical Demonstration, as their Motion, Distance, and Magnitude.

1. *Of their Motion.* And here I think no man will deny but that Comets have a real as well as an apparent motion. But though their motion be granted, yet whether that motion be equal or unequal, whether it be in a straight line or a circle, whether in an ellipsis or some irregular curve is not yet determined.

But here is no room for a Debate; and therefore I shall comprize in these three following Positions what (to me) seems most probable to solve their strange appearances, and reconcile their apparent inequality both in motion and magnitude to a regular line and equal motion.

1. That Comets as well as all other heavenly bodyes are in their motions most regular and equal, holding that motion most precisely into which they were once put by the hand of the Creator: for where there is nothing to impede, retard or accelerate a motion, that motion must needs continue the same.

2. That the motion of a Comet with respect to that place in which it nextly and immediately is, is in a straight line, though in respect of us (at least while it continues within the Orb of *Saturn*) it describe a line curve & irregular.

3. That whereas there is a general Law of Gyration or Revolution round the Sun given to all within the sphere of its activity, it must of necessity come to pass, that a Comet (or any other extraneous body) coming within this compass, though it have a particular motion of its own in which it doth equally persist, yet while the general System is circumvolved, the Comet with its straight line must also be translated together with it, in proportion to the motion of that place in which it nextly is.

We

Their magnitude and distance.

We see here upon the earth, that things in their natural tendency either upward or downward, both with respect to the air through which, or the earth to or from which they move, doe describe a right line without receiving any disturbance therein by the annual or diurnal motion of the earth: the like may be seen in the *Satellites* of Jupiter, whose motion round him is not varied at all by his swift course through the Vniverse: For as it is necessary in finding their apparent places in the Ecliptick to consider as well the motion of ♃ and of the earth, as their own proper motion; so likewise in solving the various appearances of a Comet it will be necessary to consider the motion of the Comet, of the earth, and of the the general System in that part through which the Comet is passing.

2. *Their Distance.* While Comets were thought to be generated of Fumes, Vapors, sulphurous Exhalations &c. their distance was esteem'd no greater then the upper Region of the air, and their magnitude not exceeding an hill or mountain: but by late observations their Parallaxes have been found very small if at all sensible: whence it is apparent that they are far beyond the moon; some have thought four times, some ten, some forty times as far distant from the earth as the Moon is.

3. *Of their Magnitude.* Notwithstanding the great difference in the apparent magnitude of Comets, it is commonly thought that there is no real difference in their magnitude, but in their distance only, and so seem least when most remote, and bigger when nearer. Supposing therefore that this Comet in its *Perige* or neareſt approach to the earth was but four times as far distant as the Moon, then was its distance more then eight hundred thousand English miles, the length of its blaze or tail as much as its distance, and its breadth and thickness many thousands of of miles. But these dimentions are thought incredible, & therefore I shall refer the Reader for his better satisfaction to what acconut we may receive of this Comet from other parts of the world: In the mean time take our observations of it here in *N.E.* as followeth,

Observations of a Comet *seen this last Winter* 1680. *and how it appeared at* Boston *in N-E. whose* Long. 315. *gr. and* Latitude. 42 gr. 30 min. N.

November the ~~nineteenth~~ *eighteenth* 1680. at five a clock in the morning this Comet was at *Boston* first observed, it was near 14. Degrees in *Libra*, and 1 *gr.* 30. *m.* southward of the Ecliptick. The weather being clear shewed its Tail to a great length, near 30 gr. but so faint that it vanished as soon as the day-light appeared.

Novemb. 19. It was judged within a Degree of *Spica Virginis*, directing its course to the northward of it about 40 *min.*

After this, several mornings proved cloudy, till it was covered by the Sun beams, and appeared in the East no more.

We judged it would pass its ☌ with the ☉ in the beginning of *December*, and therefore soon after expected to see it in the west.

Friday, Decemb. 10. Proved a clear evening after several preceding cloudy; the Tail of the Comet appeared near 30 gr. above our Horizon, bending to the northward, and passing exactly under the Galaxy or Milky-way.

Decemb. 12. Its Blaze or Tail appeared very red and fiery, and extended to a Star in the breast of the Swan.

Decemb. 14. Its Head was first discerned, but soon disappeared, its stream remaining for some hours after, passing to the northward of *Cor Aquilæ*, over-reached a third part of our Hemisphere.

Decemb. 16. Its appearance was very terrible, for though the head of it was but small, yet its tail ascended almost to our Zenith, growing continually broader from the

head

head, and was brighteſt on the ſides, eſpecially on the ſouth ſide, the middle of the Tail being conſiderably darker than either of the ſides.

Decemb. 17. 5.*h.* 50. Its diſtance taken from known ſtars, made its place 20*gr.* 6 *min.* ♈, and its latitude 16. *gr.* 26 *m.* N.

Decemb. 18. The ſouthward edge of its tail juſt touched the northermoſt ſtar in the Dolphin, and proceeding paſſed over a ſtar of the 3 *d.* magnitude in the Swans left wing. After this we had no clear evening til,

Saturday, Decemb. 25. when its diſtance taken from known ſtars (at 6 *h.* 12. *m.*) made its place 24 *gr.* 12 *m.* ♒ Lat. 23. 31.

Jan. 1. 6 *h.* 30 *m.* It was judged by its Poſition among the fixed ſtars, to be in ♓ 26 *gr.* 45. *min.* & its Lat. 28. 15. The night following at 8 *h* was judged to enrer ♈.

Saturday, Jan. 8. This night gave the faireſt opportunity of finding its true place, and Parallax alſo (if it had not been too ſmall for our inſtruments) by its approach to a fixed ſtar of the 3 *d.* Magnitude in the right ſhoulder of *Andromeda*: We therefore attended it in its going down for ſeveral hours. At 6 *h.* 5 *m.* we found it 28. *m.* diſtant from that ſtar: at 50. *min.* paſt 6. its diſtance was 25. *min.* when the two ſtars in *Andromedaes* ſhoulder with the Comet made a right angled Triangle, the right angle at the northward ſtar of the two mentioned. At 10 *h.* 5. *min.* The Comet paſſed by the ſaid ſtar, leaving it 12 *m.* ſouthward.

Its viſible hourly motion at this time was about 6 *m.* direct, which if compared with its daily motion, we ſhall find it but little (if at all) retarded by reaſon of its Parallax, which ſhews (at leaſt at this time) its vaſt diſtance from us; for had it not far exceeded the diſtance of the moon, its true motion would have far exceeded its viſible.

Jan. 9. It was judged to be 19 *gr.* 25 *min.* ♈ and its Latitude 24. 23.

Jan. 11. 6 *h.* The Comet was 17 *min.* diſtant from, and directly over a ſtar of the 6 *th* Magnitude in the ſnout of the

the northern Fiſh, The night following, at 6 *h.* 35. *min.* it was 46 *min.* northward from the northermoſt ſtar in the Fiſhes mouth.

Ian. 24. 6. *h.* 30 *min.* It was obſerved to be 44 *min.* diſtant from a ſtar of the fifth magnitude in the upper corner of the Triangle, its longitude being 16 *min.* leſs then the longitude of that ſtar.

After this it was ſeen (though but obſcurely) till the 10. of this Inſtant *February*, but is now ſo far exiled that it is beyond the view of a naked eye, but by the help of a good Teleſcope may be for ſome time yet diſcerned.

And thus is this prodigious Spectacle removed, leaving the world in a fearful expectation of what may follow: ſure it is that theſe things are not ſent for nothing, though man cannot ſay particularly for what: They are by moſt thought to be Fore-runners of evil coming upon the World, (though ſome think otherwiſe) as was long ſince obſerved by *Cicero*, *ab ultima antiquitatis memoria notatum eſt Cometas ſemper calamitatum prænuntios eſſe.*

But of theſe things we have lately heard in Publick by a Reverend Divine among us, in a Sermon *occaſioned by this Ominous* Appearance, *ſhewing* That prodigious Sights and Signs in heaven are many times Preſages of great Calamitves coming upon the World; *which at the deſire of many is forthwith to be made publick, to which we may refer our ſelves for the knowledge of what concerns us being under ſuch heavenly Warnings.*

Spring-Tides.

Spring-tides in the Year 1681.

March. From the eighth day to the eighteenth.
April. From the 6*th.* to the 14*th.*
May. From the 5 day to the 11.
June. From the 3 day to the 9.
July. From the 1. day to the 7*th.* and alſo the two laſt dayes in this moneth.
Auguſt. The four firſt dayes and the five laſt of this Moneth will produce high tides.
September. The two firſt dayes, and from the 17. to the end of the moneth, though not very high unleſs increaſed by the wind and weather.
October. From the 15*th.* day to the 30*th.*
November. From the 14*th.* to the 20*th.*
December. From the 12*th.* to the 18*th.*
January. From the 10*th.* to the fifteenth.
February. From the 8*th.* day to the 13*th.* the Tides will ſwell above their uſual height.

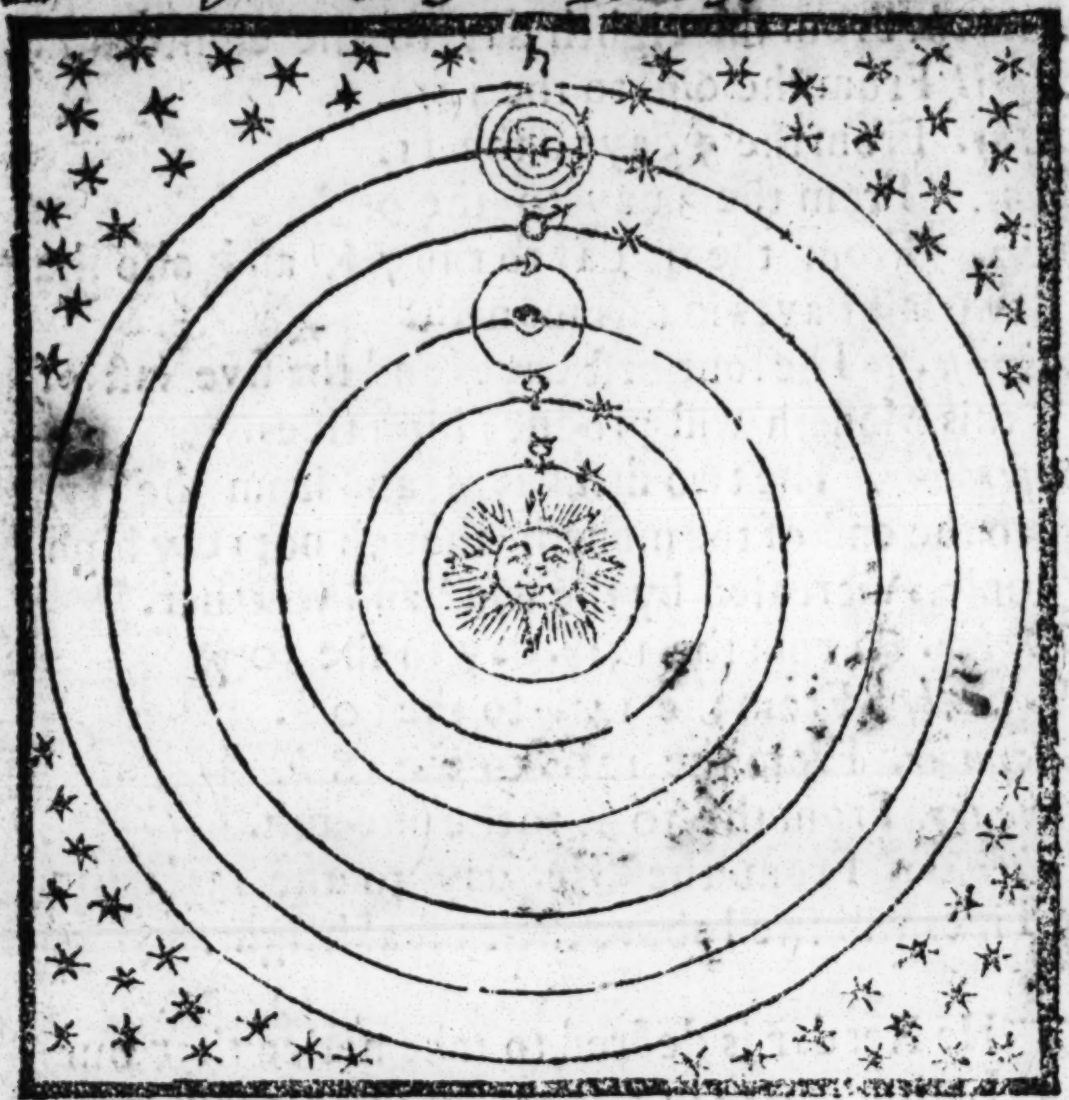
THe Reader is deſired to take notice that our Latitude here in *Boſton*, hitherto reputed to be 42. *gr.* 30. *min.* is by better Obſervations found not to exceed 42. *gr.* 24. *m.* of which you may expect the certainty by the next opportunity. The Author Dyed Sept. 9. 1681.

ERRATUM.

In the firſt Page of our Obſervations of the Comet, and the firſt line, Read November the eighteenth.

The Copernican Syſtem.

Vide Caryl Iob 9. C. P. 183.



Time tryeth Truth Convicting all that ſtrive
Faln Syſtems, dead Chymæraes to revive,
And he hath brought to light by good ſucceſs
The Law which nature never doth tranſgreſs.
Sol keeps his throne, and round about him ſhines
Vpon ſix worlds which walk in ſingle lines,
And eight leſs Globes, again encompaſſing
One th' *Earth*, four *Jove*, Three *Saturn* with his Ring:
All ſing their Makers Praiſe, and ſhew his power
In due proportion moving every hour.
Thrice happy they that leaving wandring wayes
Doe duely walk to their Creators praiſe

T. S.

FINIS.

Taken out of a printed Booke bound up after Ofborn

Bound August 1937